

INTISARI

HUBUNGAN KADAR *SEX HORMONE BINDING GLOBULIN* (SHBG) TERHADAP SKOR FUNGSI EREKSI PADA PENYANDANG DIABETES MELITUS TIPE 2 DI POLIKLINIK PENYAKIT DALAM RSUP DR. SARDJITO

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Latar Belakang: Pada disfungsi ereksi (DE) pada diabetes melitus (DM) tipe 2 dengan testosteron total normal, terdapat peran disfungsi endotel dan inflamasi kronik. Kadar SHBG yang rendah berhubungan dengan diabetes melitus, disfungsi endotel dan penanda inflamasi. Saat ini di Indonesia, belum ada studi yang meneliti hubungan SHBG dengan skor fungsi ereksi pada penderita diabetes melitus tipe 2 dengan kadar testosteron normal.

Tujuan Penelitian: Mengetahui hubungan antara kadar SHBG dengan skor fungsi ereksi pada penyandang diabetes tipe 2 dengan kadar testosteron normal.

Metode Penelitian: Penelitian observasional dengan pendekatan potong lintang yang melibatkan 53 penyandang DM di klinik Penyakit Dalam RSUP Dr. Sardjito pada bulan Januari hingga Juli 2021. Data karakteristik subjek didapat dengan wawancara dan catatan medik. Fungsi ereksi dinilai dengan kuesioner *International Index of Erectile Function-5 (IIEF-5)* versi Bahasa Indonesia yang telah tervalidasi. Pemeriksaan Testosteron Total dan SHBG dilakukan di Laboratorium Klinik RSUP Dr. Sardjito setelah subjek berpuasa selama minimal 8 jam menggunakan metode *electrochemiluminescence assay (ECLIA)*. Analisis data menggunakan perangkat lunak SPSS-IBM versi 25 dengan nilai $p < 0,05$ dan interval kepercayaan 95%.

Hasil Penelitian: Subjek memiliki rerata usia $58,45 \pm 9,19$ tahun. Rerata kadar testosteron total $17,79 \pm 5,40$ nmol/L. Rerata kadar SHBG $49,90 \pm 19,95$ nmol/L ($17,26-96,84$ nmol/L). Kadar SHBG berkorelasi positif dengan usia ($r=0,283$; $p=0,04$). Proporsi derajat disfungsi ereksi adalah 18,9% DE ringan, 26,4% DE ringan-sedang, 26,4% DE sedang dan 28,3% DE berat. Skor fungsi ereksi berkorelasi negatif dengan usia ($r=-0,303$; $p=0,028$), dan durasi DM ($r=-0,272$; $p=0,049$). Uji korelasi kadar SHBG dengan skor disfungsi ereksi $r=-0,162$ $p=0,246$. Subanalisis korelasi indeks androgen bebas (FAI) terhadap skor fungsi ereksi dengan hasil $r=0,302$; $p=0,028$. Analisis multivariat kadar SHBG dan variabel pengganggu terhadap skor fungsi ereksi menunjukkan hasil tidak signifikan ($p>0,05$).

Kesimpulan: kadar SHBG tidak berkorelasi secara signifikan dengan skor fungsi ereksi.

Kata kunci: SHBG, testosteron, disfungsi ereksi, skor IIEF-5, diabetes melitus

ABSTRACT

RELATIONSHIP OF SEX HORMONE BINDING GLOBULIN (SHBG) LEVELS TO ERECTILE FUNCTION SCORES IN TYPE 2 DIABETES MELLITUS IN THE INTERNAL MEDICINE OUTPATIENT CLINIC DR. SARDJITO HOSPITAL

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Background: In erectile dysfunction (ED) in type 2 diabetes mellitus (DM) with normal total testosterone, there is a role for endothelial dysfunction and chronic inflammation. Low SHBG levels are associated with diabetes mellitus, endothelial dysfunction and markers of inflammation. Currently in Indonesia, there are no studies examining the relationship between SHBG and erectile function scores in patients with type 2 diabetes mellitus with normal testosterone levels.

Objectives: To evaluate the relationship between SHBG levels and erectile function scores in people with type 2 diabetes with normal testosterone levels.

Methods: A cross-sectional study involving 53 people with diabetes at the Internal Medicine clinic, Dr. Sardjito in January to July 2021. The characteristics subject data were obtained through interviews and medical records. Erectile function was assessed using a validated Indonesian version of the International Index of Erectile Function-5 (IIEF-5) questionnaire. Total Testosterone and SHBG examinations were carried out at the Clinical Laboratory of RSUP Dr. Sardjito after the subject fasted for at least 8 hours using the electrochemiluminescence assay (ECLIA) method. Data analysis used SPSS-IBM software version 25 with $p < 0.05$ and 95% confidence interval.

Results: Mean age was 58.45 ± 9.19 years. Mean total testosterone was 17.79 ± 5.40 nmol/L. Mean SHBG was 49.90 ± 19.95 nmol/L (17.26-96.84 nmol/L). SHBG levels were positively correlated with age ($r = 0.283$; $p = 0.04$). The degrees of erectile dysfunction were 18.9% mild ED, 26.4% mild-moderate ED, 26.4% moderate ED and 28.3% severe ED. Erectile function scores were negatively correlated with age ($r = -0.303$; $p = 0.028$), and duration of DM ($r = -0.272$; $p = 0.049$). Correlation test of SHBG levels with erectile dysfunction score $r = -0.162$ $p = 0.246$. Sub-analysis correlation of free androgen index (FAI) on erectile function scores is $r = 0.302$; $p = 0.028$. Multivariate analysis of SHBG levels and confounding variables on erectile function scores showed no significant results ($p > 0.05$).

Conclusion: SHBG levels were not significantly correlated with erectile function scores.

Keywords : SHBG, testosterone, erectile dysfunction, IIEF-5 score, Diabetes mellitus.